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SEQUENCE LISTING

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<120> METHOD FOR PRODUCING UNSATURATED OMEGA-3-FATTY ACIDS IN
TRANSGENIC ORGANISMS

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<151> 2004-02-27

<160> 6

<170> PatentIn version 3.3

<210> 1
<211> 1086
<212> DNA
<213> Phytophthora infestans

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<221> CDS

<222> (1)..(1086)

<223> Omega-3-desaturase

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Arg Ser Leu Pro Lys Asp Cys Phe Glu Ala Ser Val Pro Leu Ser Leu
20 25 30
tac tac acc gtg cgt tgt ctg gtg atc gcg gtg gct cta acc ttc ggt 144
Tyr Tyr Thr Val Arg Cys Leu Val Ile Ala Val Ala Leu Thr Phe Gly
35 40 45
ctc aac tac gct cgc gct ctg ccc gag gtc gag agc ttc tgg gct ctg 192
Leu Asn Tyr Ala Arg Ala Leu Pro Glu Val Glu Ser Phe Trp Ala Leu
50 55 60
gac gcc gca ctc tgc acg ggc tac atc ttg ctg cag ggc atc gtg ttc 240
Asp Ala Ala Leu Cys Thr Gly Tyr Ile Leu Leu Gln Gly Ile Val Phe
65 70 75 80
tgg ggc ttc ttc acg gtg ggc cac gat gcc ggc cac ggc gcc ttc tcg 288
Trp Gly Phe Phe Thr Val Gly His Asp Ala Gly His Gly Ala Phe Ser
85 90 95
cgc tac cac ctg ctt aac ttc gtg gtg ggc act ttc atg cac tcg ctc 336
Arg Tyr His Leu Leu Asn Phe Val Val Gly Thr Phe Met His Ser Leu
100 105 110
atc ctc acg ccc ttc gag tcg tgg aag ctc acg cac cgt cac cac cac 384
Ile Leu Thr Pro Phe Glu Ser Trp Lys Leu Thr His Arg His His His
115 120 125

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Lys Asn Thr Gly Asn Ile Asp Arg Asp Glu Val Phe Tyr Pro Gln Arg	
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aag gcc gac gac cac ccg ctg tct cgc aac ctg att ctg gcg ctc ggg	480
Lys Ala Asp Asp His Pro Leu Ser Arg Asn Leu Ile Leu Ala Leu Gly	
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gca gcg tgg ctc gcc tat ttg gtc gag ggc ttc cct cct cgt aag gtc	528
Ala Ala Trp Leu Ala Tyr Leu Val Glu Gly Phe Pro Pro Arg Lys Val	
165 170 175	
aac cac ttc aac ccg ttc gag cct ctg ttc gtg cgt cag gtg tca gct	576
Asn His Phe Asn Pro Phe Glu Pro Leu Phe Val Arg Gln Val Ser Ala	
180 185 190	
gtg gta atc tct ctt ctc gcc cac ttc ttc gtg gcc gga ctc tcc atc	624
Val Val Ile Ser Leu Leu Ala His Phe Phe Val Ala Gly Leu Ser Ile	
195 200 205	
tat ctg agc ctc cag ctg ggc ctt aag acg atg gca atc tac tac tat	672
Tyr Leu Ser Leu Gln Leu Gly Leu Lys Thr Met Ala Ile Tyr Tyr Tyr	
210 215 220	
gga cct gtt ttt gtg ttc ggc agc atg ctg gtc att acc acc ttc cta	720
Gly Pro Val Phe Val Phe Gly Ser Met Leu Val Ile Thr Thr Phe Leu	
225 230 235 240	
cac cac aat gat gag gag acc cca tgg tac gcc gac tcg gag tgg acg	768
His His Asn Asp Glu Glu Thr Pro Trp Tyr Ala Asp Ser Glu Trp Thr	
245 250 255	
tac gtc aag ggc aac ctc tcg tcc gtg gac cga tcg tac ggc gcg ctc	816
Tyr Val Lys Gly Asn Leu Ser Ser Val Asp Arg Ser Tyr Gly Ala Leu	
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Ile Asp Asn Leu Ser His Asn Ile Gly Thr His Gln Ile His His Leu	
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ttc cct atc att ccg cac tac aaa ctc aag aaa gcc act gcg gcc ttc	912
Phe Pro Ile Ile Pro His Tyr Lys Leu Lys Lys Ala Thr Ala Ala Phe	
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cac cag gct ttc cct gag ctc gtg cgc aag agc gac gag cca att atc	960
His Gln Ala Phe Pro Glu Leu Val Arg Lys Ser Asp Glu Pro Ile Ile	
305 310 315 320	
aag gct ttc ttc cgg gtt gga cgt ctc tac gca aac tac ggc gtt gtg	1008
Lys Ala Phe Phe Arg Val Gly Arg Leu Tyr Ala Asn Tyr Gly Val Val	
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gac cag gag gcg aag ctc ttc acg cta aag gaa gcc aag gcg gcg acc	1056
Asp Gln Glu Ala Lys Leu Phe Thr Leu Lys Glu Ala Lys Ala Ala Thr	
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<212> PRT

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65	70	75
Trp Gly Phe Phe Thr Val Gly His Asp Ala Gly His Gly Ala Phe Ser		
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Arg Tyr His Leu Leu Asn Phe Val Val Gly Thr Phe Met His Ser Leu		
100	105	110
Ile Leu Thr Pro Phe Glu Ser Trp Lys Leu Thr His Arg His His His		
115	120	125
Lys Asn Thr Gly Asn Ile Asp Arg Asp Glu Val Phe Tyr Pro Gln Arg		
130	135	140
Lys Ala Asp Asp His Pro Leu Ser Arg Asn Leu Ile Leu Ala Leu Gly		
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Ala Ala Trp Leu Ala Tyr Leu Val Glu Gly Phe Pro Pro Arg Lys Val		
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Asn His Phe Asn Pro Phe Glu Pro Leu Phe Val Arg Gln Val Ser Ala		
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Val Val Ile Ser Leu Leu Ala His Phe Phe Val Ala Gly Leu Ser Ile		
195	200	205
Tyr Leu Ser Leu Gln Leu Gly Leu Lys Thr Met Ala Ile Tyr Tyr Tyr		
210	215	220
Gly Pro Val Phe Val Phe Gly Ser Met Leu Val Ile Thr Thr Phe Leu		
225	230	235
His His Asn Asp Glu Glu Thr Pro Trp Tyr Ala Asp Ser Glu Trp Thr		
245	250	255
Tyr Val Lys Gly Asn Leu Ser Ser Val Asp Arg Ser Tyr Gly Ala Leu		
260	265	270
Ile Asp Asn Leu Ser His Asn Ile Gly Thr His Gln Ile His His Leu		
275	280	285
Phe Pro Ile Ile Pro His Tyr Lys Leu Lys Lys Ala Thr Ala Ala Phe		
290	295	300
His Gln Ala Phe Pro Glu Leu Val Arg Lys Ser Asp Glu Pro Ile Ile		
305	310	315
Lys Ala Phe Phe Arg Val Gly Arg Leu Tyr Ala Asn Tyr Gly Val Val		
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Glu Ala Ala Ala Lys Thr Lys Ser Thr		
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